

1 **Abstract**

2 The invention provides an optical system and the method
3 thereof for the image capture. The optical system of
4 the invention comprises a special optical component,
5 an aperture, second lens, a uniform light source and
6 a detector. The special optical component further
7 consists of a first lens and a triangular prism as a
8 whole. The second lens is for further modifying and
9 converging image generated through the special optical
10 component while the detector such as a CMOS sensor is
11 to receive the final image. Furthermore, an aperture
12 is put between the special optical component and the
13 second lens in order to reduce the aberration of the
14 image generated through the special optical component.
15 In addition, the present invention also uses two pairs
16 of LEDs, with a specified position and brightness,
17 instead of a pair of LEDs to generate a uniform light
18 source.